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Thomas L. Kuntz

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EXAMINER

AGHDAM, FRESHTEH N

ART UNIT

PAPER NUMBER

2611

MAIL DATE

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PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

DETAILED ACTION

Response to Arguments

Applicant's arguments filed February 23, 2009 have been fully considered but they are not persuasive.

Applicant's Argument(s):

Regarding claim 1, pages 4-5, the applicant argues that the claimed subject matter is not taught by the combination of Kumura and Sato "Applicant however recites that the received signal is delayed by a period "that is an integer multiple of one cycle of rotation of the frequency correction burst signal", i.e., not "several symbols" as taught by Kumura, to produce the reference signal. Therefore the reference signal of Applicant is not an external reference signal [the known symbol sequence of Kumura], but is related to the received signal itself. As recited by Applicant, the received signal is then correlated with a conjugate version of the reference signal to produce a correlation result "indicative of a location of the frequency correction burst signal within the received signal." Kumura never produces such a correlation result indicative of the location of the FCB signal. Nowhere in Kumura is location of the frequency correction burst signal indicated as being desired. Kumura merely seeks to determine the frequency offset to sync receiver to transmitter, which frequency offset Applicant's claimed invention eliminates in determining the location of the frequency correction burst signal within the received signal for use in synchronization. Thus claim 1 is deemed to be allowable as being nonobvious to one of ordinary skill in the art since neither cited reference teaches or suggests correlation of the received signal with a conjugate version of a delayed

version of the received signal itself in order to determine location of the frequency correction burst signal within the received signal.”

Examiner's Response:

Regarding the argument set forth above, the examiner disagrees with the applicant because, as it was indicated in the previous office action, Kumura teaches a method of detecting a signal in a receiver comprising the steps of: delaying the received signal by a period to produce a reference signal, wherein the amount of delay is an integer multiple of the symbol period of the signal to produce the reference signal (fig. 1, par. 6); and correlating the received signal with a conjugate version of the reference signal (par. 6) to produce a correlation result, wherein the correlation result is indicative of a location of the known signal within the received signal (see Kanaoka, fig. 12, par. 145) and Sato teaches that the correlation step outputs only real components for improved computational efficiency where the frequency offset is expected to be within an acceptable range (col. 6, lines 38-50).

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to FRESHTEH N. AGHDAM whose telephone number is (571)272-6037. The examiner can normally be reached on 9:00-5:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Chieh Fan can be reached on 571-272-3042. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Art Unit: 2611

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/F. N. A./

Examiner, Art Unit 2611

/Chieh M Fan/

Supervisory Patent Examiner, Art Unit 2611